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SOLAR ENERGY IN UKRAINE AND WHY IS THE CONSTRUCTION OF SOLAR POWER PLANTS PROMISING?

Solar energy is a direction of alternative energy based on the direct use of solar radiation to obtain energy in any form. Solar energy uses renewable energy and is "environmentally friendly (green)".

Nowadays, there are two main ways to convert solar energy. 1) The photovoltaic system is a type of electricity generation by means of the sun's rays on the panel. The conversion of solar energy into electrical energy is based on the Photovoltaic Effect. Principle of operation, when light penetrates the surface of the substance, the electrodes begin to move between the anode and cathode inside the panel. The panels are composed of several layers of semiconductor materials. The greater the

concentration of light, the greater the generation of electricity. 2) Solar thermal energy is a system that transforms solar energy into electrical or thermal energy in three ways.

The first is the use of solar collectors for heating. Heat conductor is water or antifreeze. Such solar collectors are very popular in Japan and the USA.

The second is the use of silicon-based solar cells. Despite the fact that this method is more expensive than others, its popularity is growing.

The third method is based on the use of solar radiation for transformation into electrical energy. Mirrors are used to direct the sun's rays to one point.

Solar energy in Ukraine.

The climate and geographical location of Ukraine are favorable for the development of solar energy and the construction of solar power plants. Even the northern regions of the country have significant potential for the development of this industry, which is not inferior to most European regions. Ukraine has all the favorable conditions for the rapid growth of solar energy. Today the level of development of solar energy in Ukraine is equal to the level of solar energy in Europe in 2010. But now Ukraine has the most attractive conditions for investment in solar economy in Europe. Ukraine has created favorable conditions: the availability of resources and land plots, a preferential tariff, government support and a targeted energy strategy, the goal of which is to achieve 25% of clean energy production by 2035. According to the forecasts of the specialists of the list, solar energy will increase its capacity in Ukraine, as there is a great interest of foreign investors. Why is the construction of solar power plants promising? Solar energy and energy saving is a global trend. 2017 was a landmark year for solar photovoltaic energy - the most solar capacity in the world was commissioned in comparison with other types of power generation technologies. The five largest national markets - China, USA, India, Japan and Turkey - account for almost 84% of newly installed capacity. Global solar energy prices are forecast to decline by an average of 27% between 2019 and 2022. Utility-scale solar installations will cost less than coal-fired power plants in all developed countries. According to experts' forecasts, by 2070 the energy of the Sun will become the main source of electricity on Earth, and by the beginning of the next century, in terms of its volume, solar energy is 3.5 times larger than the oil industry and 6 times the nuclear industry. And besides, solar energy has an unlimited supply of fuel. Modern technologies make it possible to obtain solar panels that, with minimal operating costs and maintenance, will provide efficient electricity generation for at least 30 years.

СПИСОК ВИКОРИСТАНОЇ ЛІТЕРАТУРИ

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